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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Mark A. Exley et al.	Art Unit:	3146
Serial No.:	09/885,768	Examiner:	Not Yet Assigned
Filed:	June 19, 2001	Customer No.:	21559
Title:	Compositions and Methods of Monoclonal and Polyclonal Antibodies Specific for T Cell Subpopulations		

Assistant Commissioner For Patents
Washington, D.C. 20231

TRANSMITTAL OF SUBSTITUTE DRAWINGS TO OFFICIAL DRAFTSPERSON

In reply to the Notice To File Missing Parts that was mailed in the above-captioned case on August 14, 2001 enclosed are:

☒ 40 sheets of substitute drawings that replace the informal drawings filed with the application.

If there are any other charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

Date: December 3, 2001

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21559
PATENT TRADEMARK OFFICE

\\Clark-w2k1\documents\01948\01948.074002 Transmittal of formal drawings.wpd

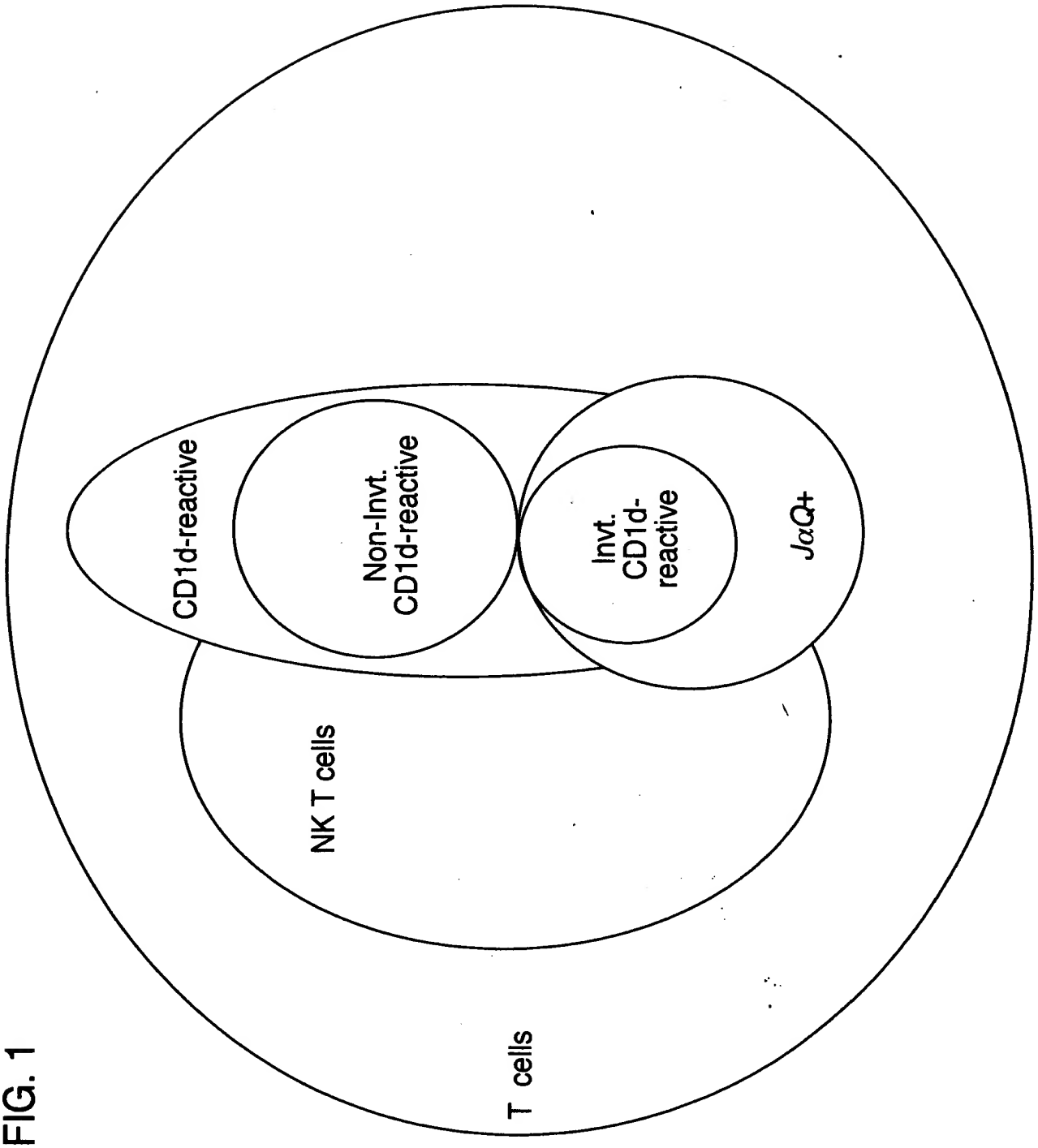

T cells
NK T cells
CD1d-reactive
Non-Invt. CD1d-reactive
Invt. CD1d-reactive
JαQ+

FIG. 1

FIG. 2A

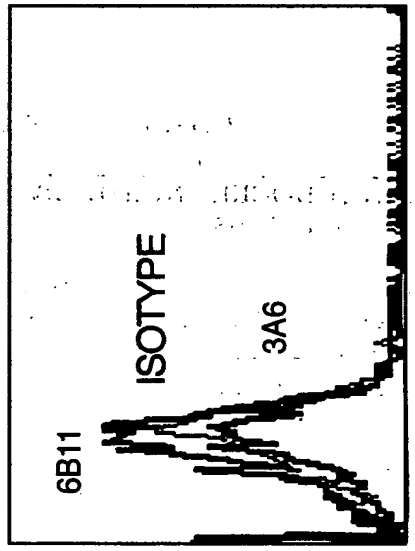

Control T-cell
6B11
ISOTYPE
3A6

FIG. 2B

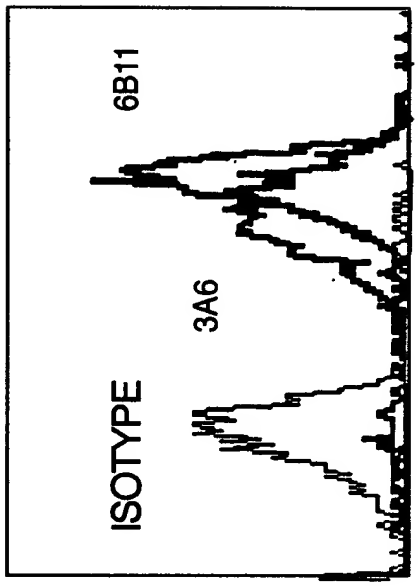

Invariant T-cell
6B11
3A6
ISOTYPE

FIG. 3A

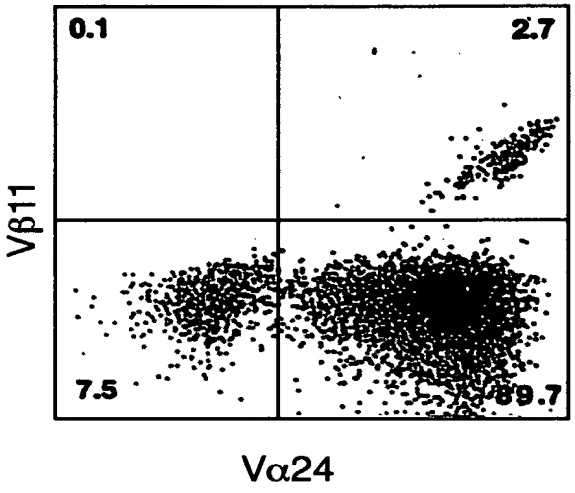


FIG. 3B

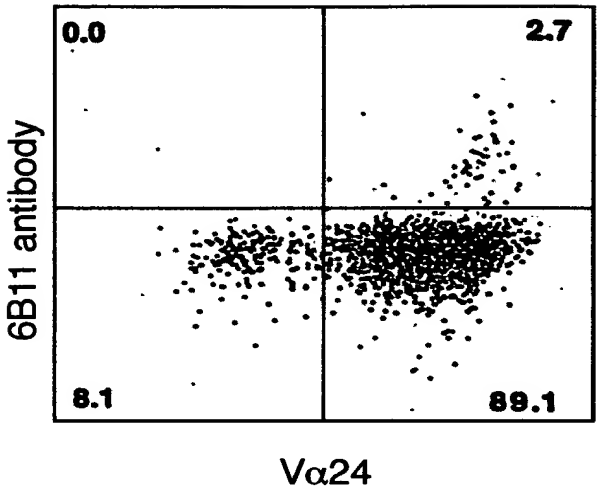


FIG. 4A

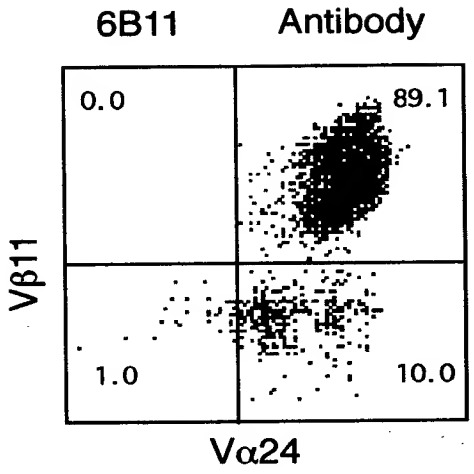

6B11 Antibody
0.0
89.1
1.0
10.0
Vβ11
Vα24

FIG. 4B

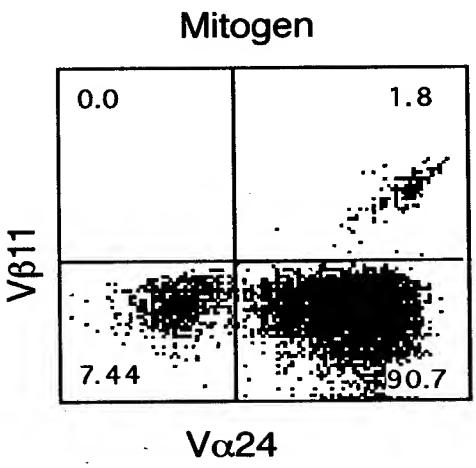

Mitogen
0.0
1.8
7.44
90.7
Vβ11
Vα24

FIG. 5A

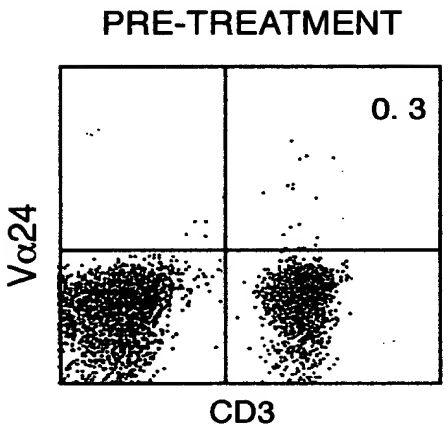


FIG. 5B

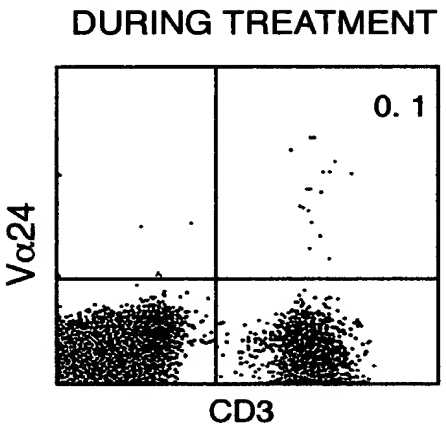


FIG. 6A

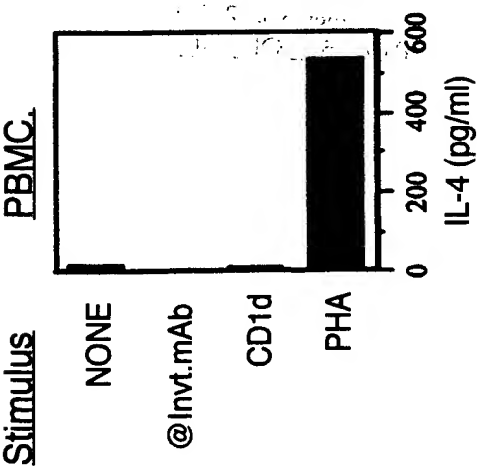


FIG. 6B

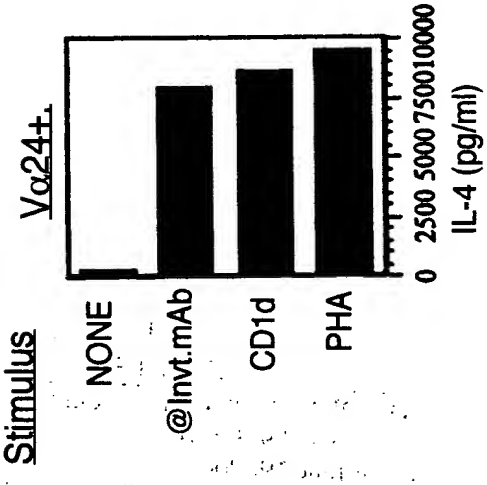


FIG. 6C

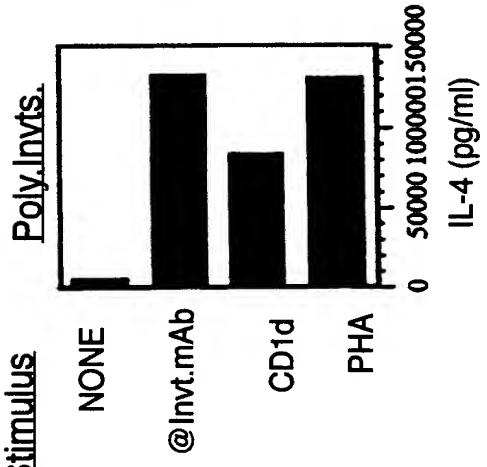


FIG. 7A

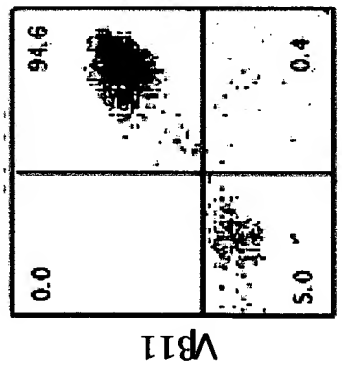


FIG. 7B

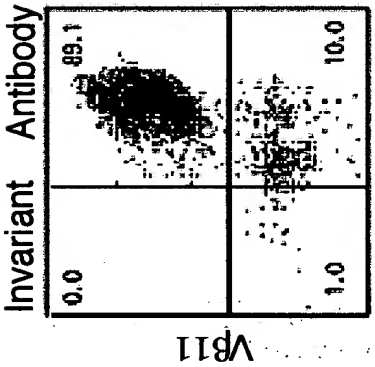


FIG. 7C

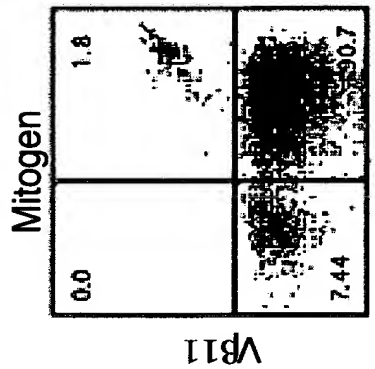


FIG. 8A

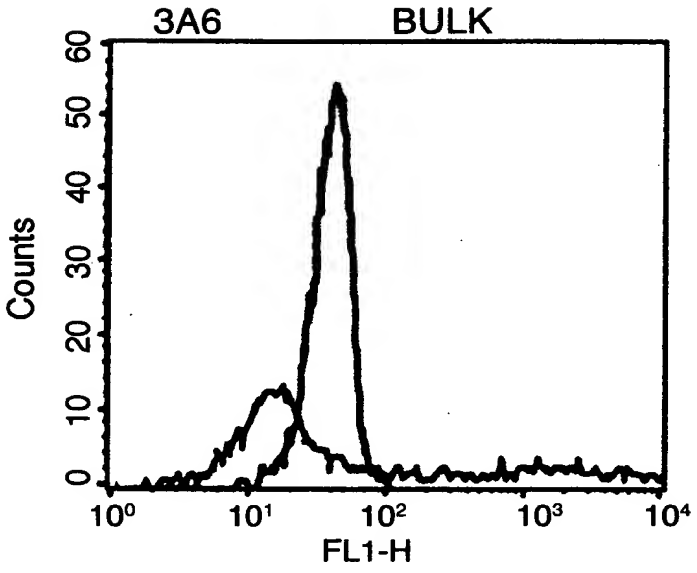


FIG. 8B

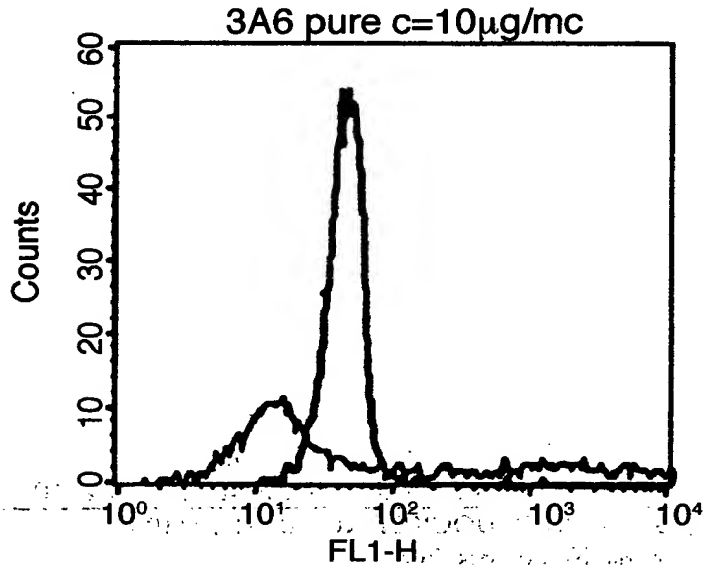


FIG. 8C

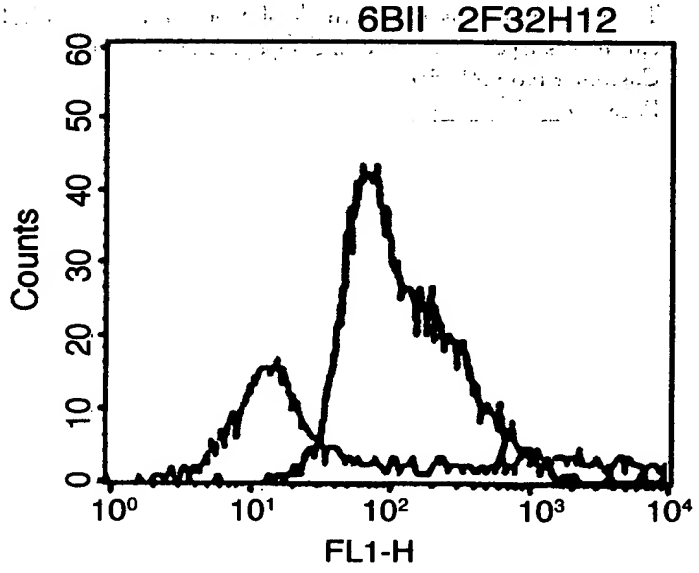


FIG. 8D

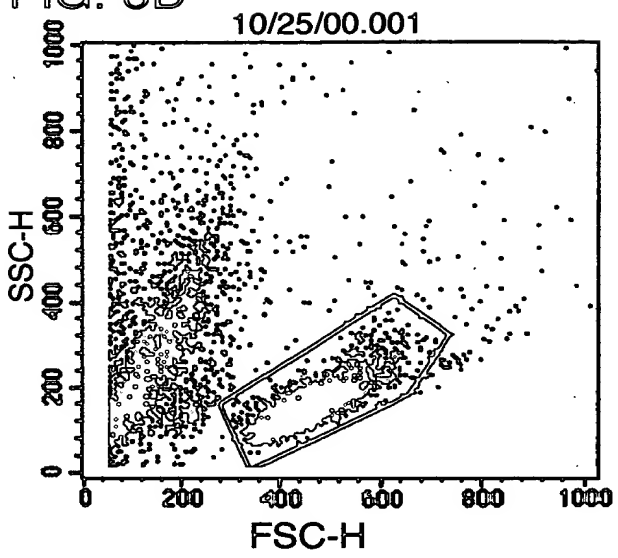


FIG. 8G

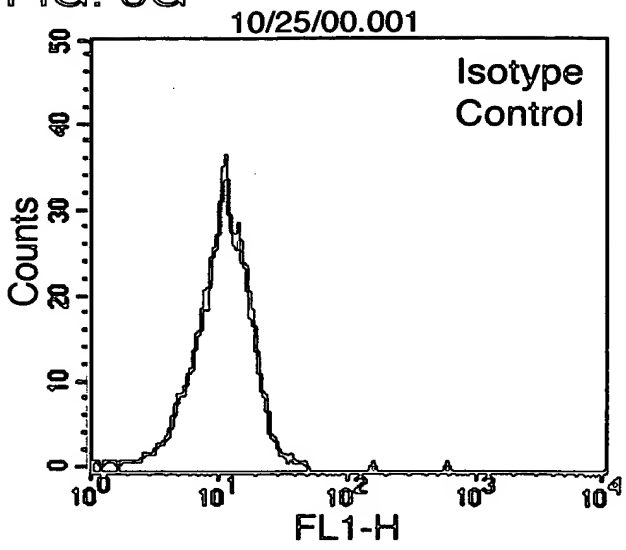


FIG. 8E

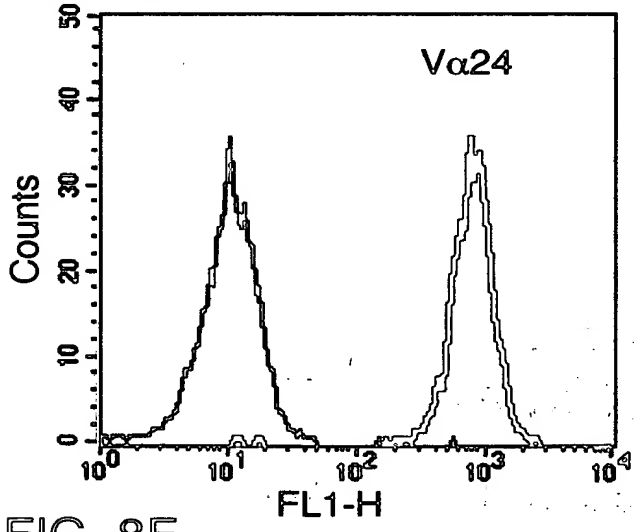


FIG. 8H

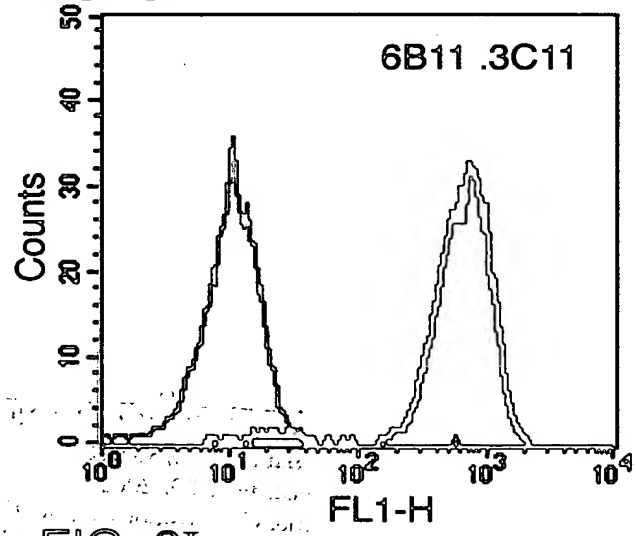


FIG. 8F

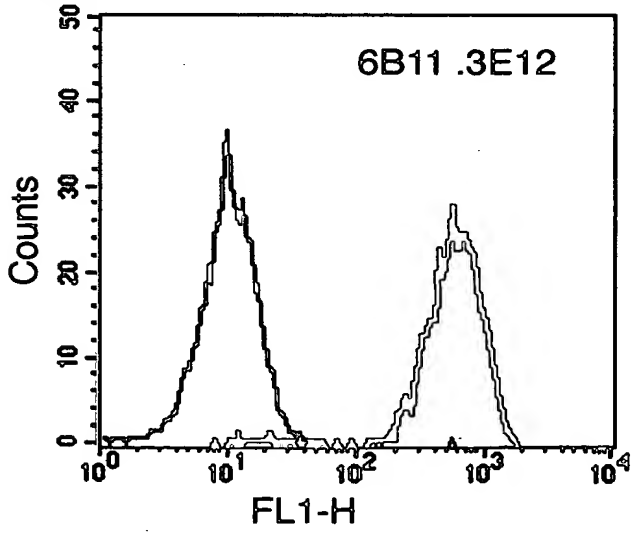


FIG. 8I

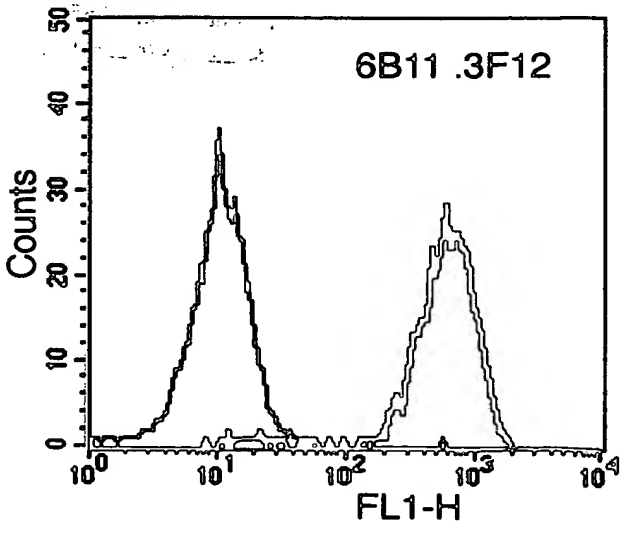
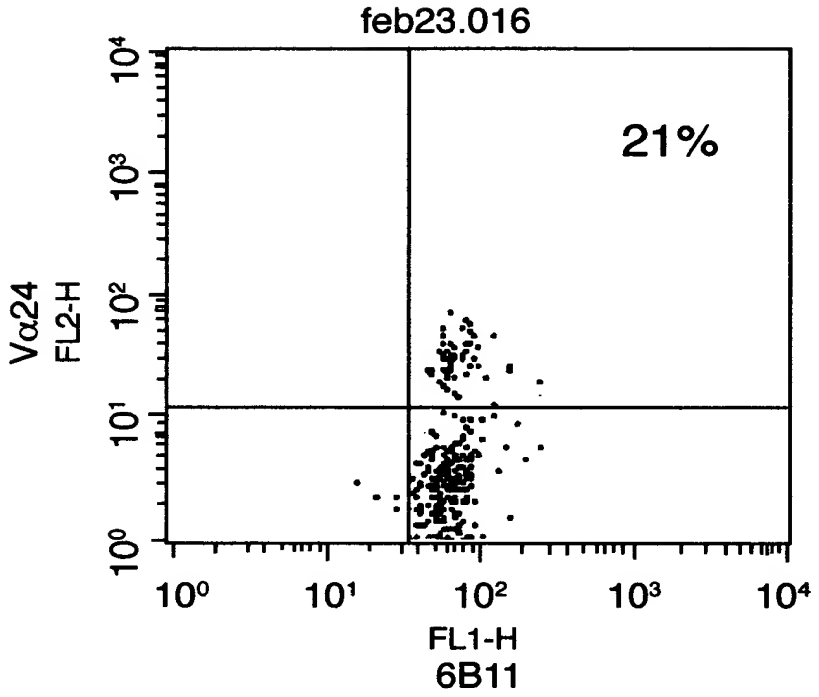


FIG. 9



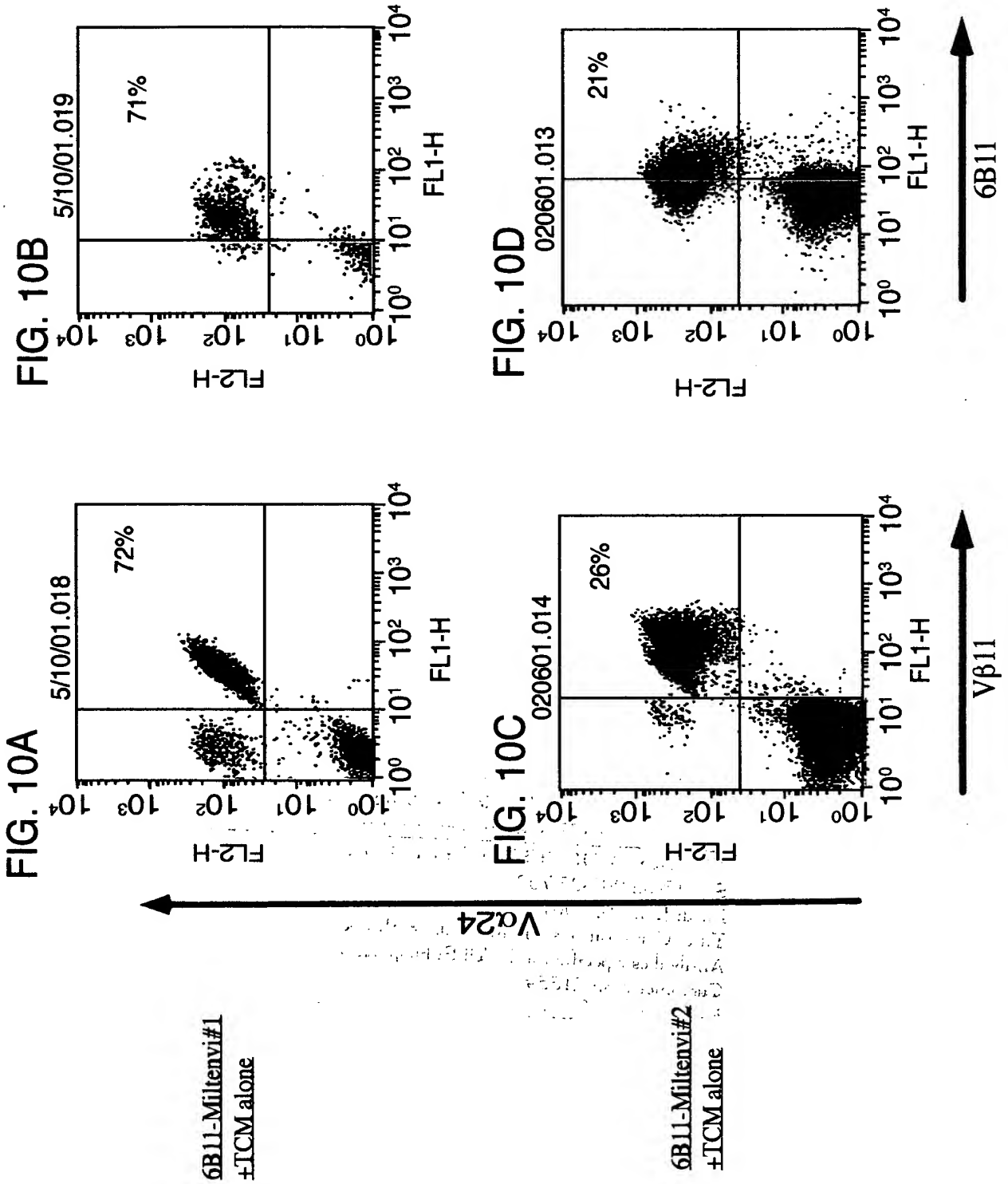


FIG. 10A
5/10/01.018
72%
FIG. 10B
5/10/01.019
71%
FIG. 10C
020601.014
26%
FIG. 10D
020601.013
21%
FL1-H
FL2-H
Vα24
Vβ11
6B11
6B11-Miltenvi#1
±TCM alone
6B11-Miltenvi#2
±TCM alone

FIG. 10E

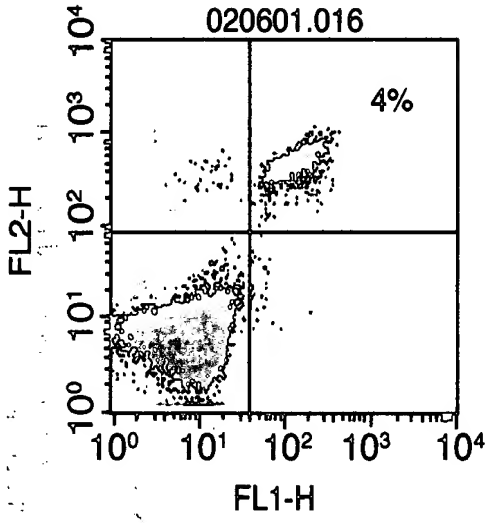
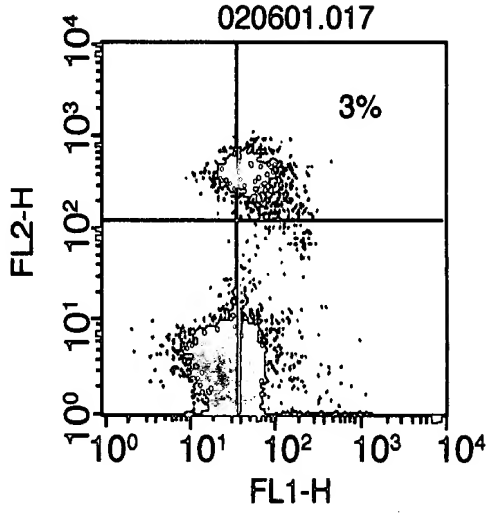


FIG. 10F



6B11-Miltenyi#2
+TCM+Dexamethasone

FIG. 10G

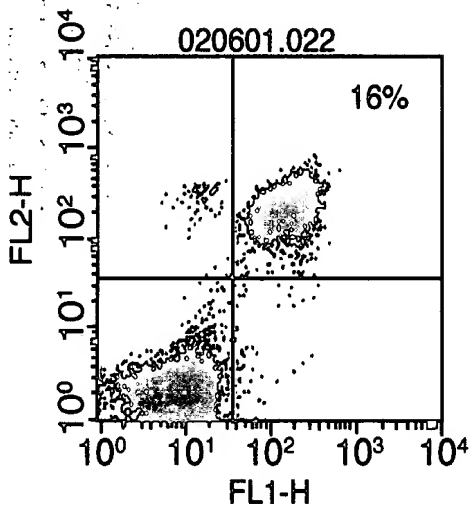
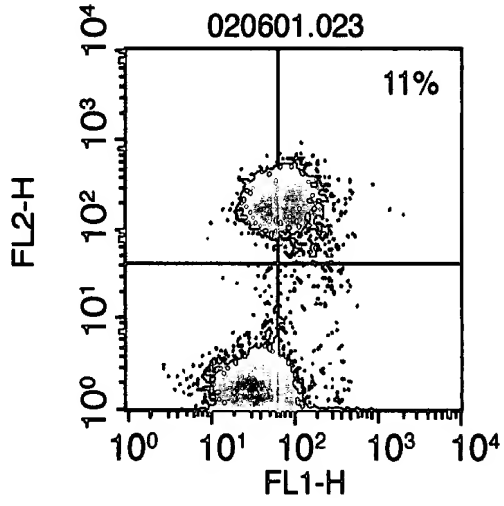
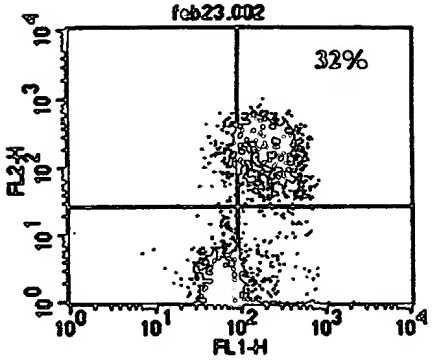


FIG. 10H



6B11-Miltenyi#2
+TCM+IL-7+IL-15

FIG. 11A



6B11-Dynal + TCM alone

FIG. 11B

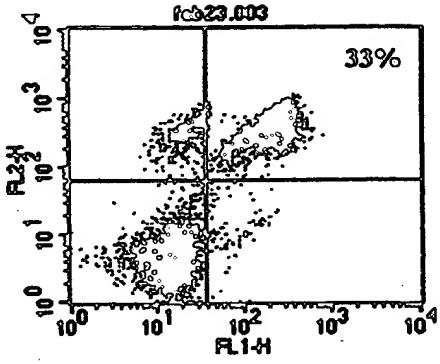
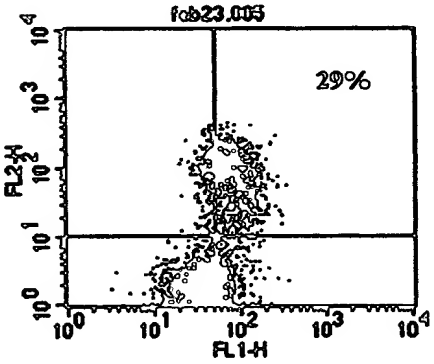
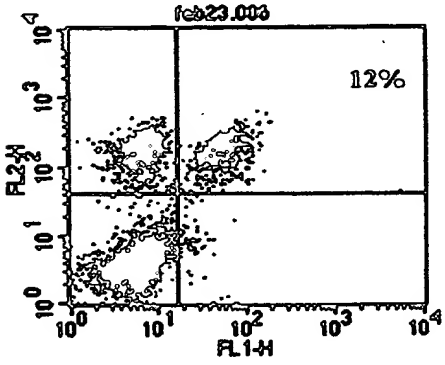


FIG. 11C



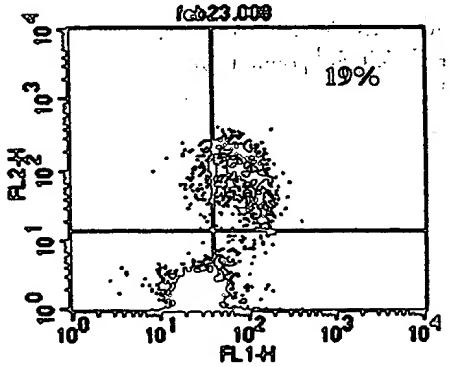
6B11-Dynal TCM + IL-7 + IL-15

FIG. 11D



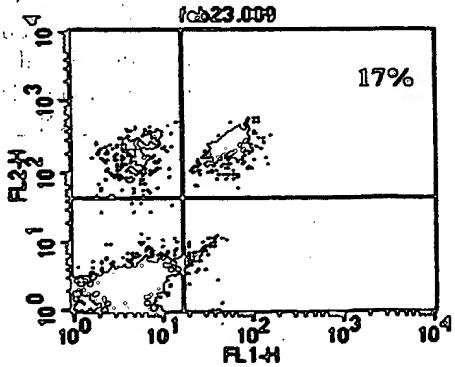
Vα24

FIG. 11E



6B11-Dynal+ Dexamethasone

FIG. 11F



6B11

Vβ11

FIG. 12

Miltenyi vs. Dynal 4/11/01			
	PBMC	Dynal @ 40	Miltenyi @ 20
Donor 1			
Vα24/6B11	0	8.46	4.53
Vα24/Vβ11	0.01	4.85	4.71
Vα24		3.9	
Donor 2			
Vα24/6B11	0.01	0.99	5.91
Vα24/Vβ11	0.01	1.47	6.16
Vα24		0.33	
Donor 3			
Vα24/6B11	0	N/A	71
Vα24/Vβ11	0.03	N/A	72
Vα24			5.98
LKP 21 unsorted control			
Vα24/6B11	0.01		
Vα24/Vβ11	0		

FIG. 13

Dynal Bead 1/19/01			
LKP 10 on 40 ug/ml 6B11 on TCM			
	Vα24/Vβ11	32.98	Fig. 11B
	Vα24/6B11	32	Fig. 11A
LKP 10 on TCM + IL15/IL7			
	Vα24/Vβ11	12.46	Fig. 11D
	Vα24/6B11	29	Fig. 11C
LKP 10 on TCM + dex			
	Vα24/Vβ11	17.08	Fig. 11F
	Vα24/6B11	19	Fig. 11E
LKP 10 on TCM + IL15/IL7+dex			
	Vα24/Vβ11	4.93	Fig. 10B
	Vα24/6B11	13.81	Fig. 10A

FIG. 14

Dynal 6B11 Bead Prep 3/9/01		
LKP 14 unsorted control		
3/20/01	Vα24/Vβ11	0.02%
	Vα24/6B11	0.01%
LKP 14 6B11 + PHA + auto APC		
3/20/01	Vα24/Vβ11	0.09%
	Vα24/6B11	0%
4/20/01	Vα24/Vβ11	0.13%
	Vα24/6B11	0.00%
	Vα24	0.01%
LKP 14 6B11 + PHA + auto APC		
3/20/01	Vα24/Vβ11	0.68%
	Vα24/6B11	0.02%
4/20/01	Vα24/Vβ11	0.15%
	Vα24/6B11	0.00%
	Vα24	0.73%
4/27/01	alpha Gal Cer stim	
5/10/01	Vα24/Vβ11	2.73%
	Vα24/6B11	2.94%
unsorted control		
	Vα24/Vβ11	0.01%
	Vα24/6B11	0.01%
6B11 + PHA + auto APC		
4/20/01	Vα24/Vβ11	3.64%
	Vα24/6B11	3.75%
5/10/01	Vα24/Vβ11	5.01%
	Vα24/6B11	4.92%

FIG. 15

Dynal 6B11 Bead Prep 3/9/01		
LKP 13 unsorted control		
	Vα24/Vβ11	0.07%
	Vα24/6B11	0.06%
LKP 13 6B11 + PHA + allo APC		
4/20/01	Vα24/Vβ11	1.85%
	Vα24/6B11	0%
	Vα24	1.16%
5/10/01	Vα24/Vβ11	14.29%
	Vα24/6B11	
unsorted control		
	Vα24/Vβ11	0.01%
	Vα24/6B11	0.00%
6B11 + PHA + auto APC		
4/20/01	Vα24/Vβ11	0.05%
	Vα24/6B11	0.06%
	Vα24	3.22%
6B11 + auto APC		
4/20/01	Vα24/Vβ11	0.78%
	Vα24/6B11	0.00%
	Vα24	1%

FIG. 16

Miltenyi Prep #1 6B11		1/01
LKP2 +auto APC on TCM		
2/6/01	Vα24/Vβ11	26.07%
	Vα24/6B11	21%
2/23/01	Vα24/6B11	10.79%
3/26/01	alpha Gal Cer stim	
4/20/01	Vα24/Vβ11	73.40%
	Vα24/6B11	74.66%
4/27/01	alpha Gal Cer stim	
5/14/01	Vα24/Vβ11	80.87%
	Vα24/6B11	79.98%
LKP2 +auto APC on TCM + IL7/IL15		
2/6/01	Vα24/Vβ11	16%
	Vα24/6B11	11%
3/26/01	alpha Gal Cer stim	
4/20/01	Vα24/Vβ11	54.28%
	Vα24/6B11	56.89%
4/27/01	alpha Gal Cer stim	
5/14/01	Vα24/Vβ11	68.05%
	Vα24/6B11	68.85%
	Vα24	1.66%

FIG. 17

	Miltenyi Prep #2		1/01	
	LKP 11 on Va24 + auto APC + PHA			
Fig. 10C	2/23/01	Vα24/6B11	63.75%	
Fig. 10D	3/20/01	Vα24/Vβ11	1.43%	
		Vα24/6B11	0.07%	
	4/27/01	alpha Gal Cer stim		
	5/10/01	Vα24/Vβ11	24.78%	
		Vα24/6B11	14.94%	
	LKP 11 on 6B11 + auto APC + PHA			
	2/23/01	Vα24/6B11	45.27%	
	LKP 12 on Va24 + auto APC + PHA			
Fig. 10G	2/23/01	Vα24/6B11	33.51%	
Fig. 10H	3/20/01	Vα24/Vβ11	0.25%	
		Vα24/6B11	0.25%	
	4/27/01	alpha Gal Cer stim		
	5/14/01	Vα24/Vβ11	0.00%	
		Vα24/6B11	0.00%	
		Vα24	55.00%	

FIG. 18

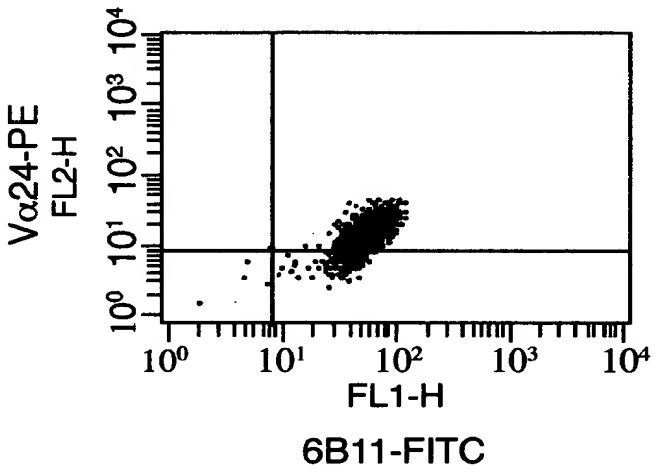


FIG. 19A

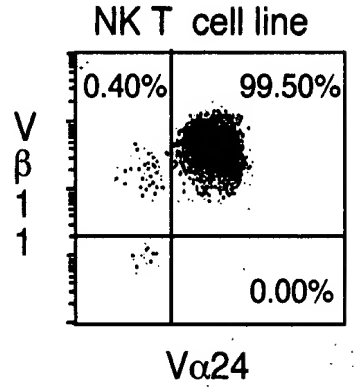


FIG. 19B

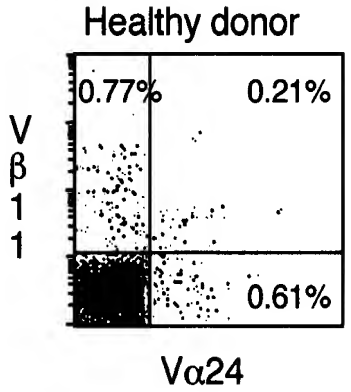


FIG. 19C

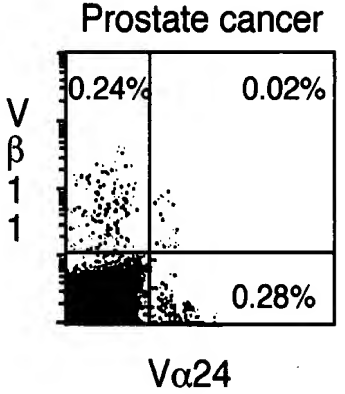


FIG. 19D

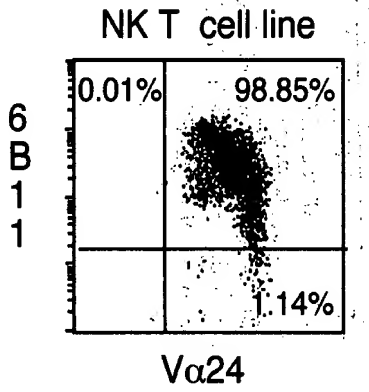


FIG. 19E

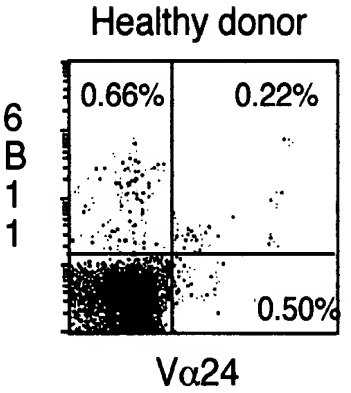


FIG. 19F

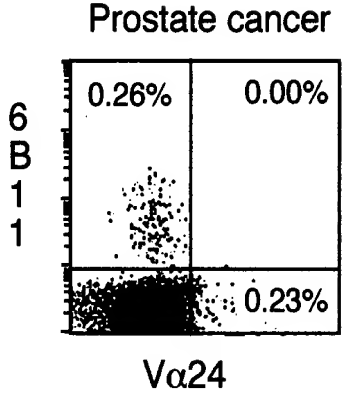


FIG. 20A

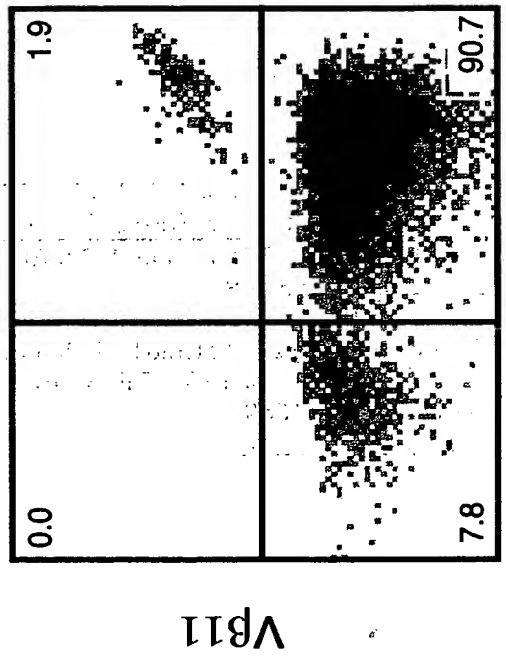


FIG. 20B

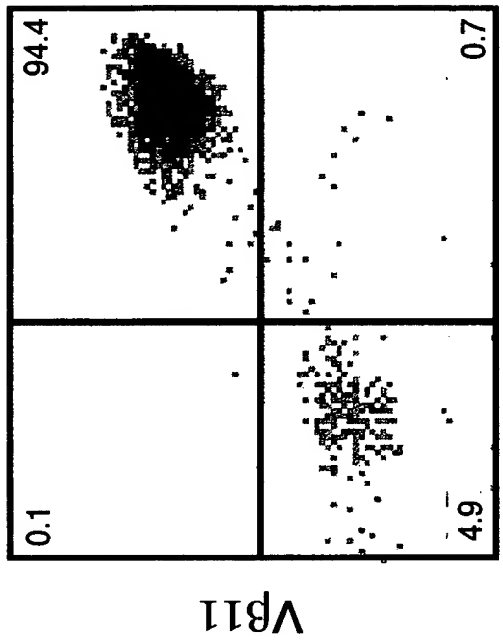


FIG. 20D

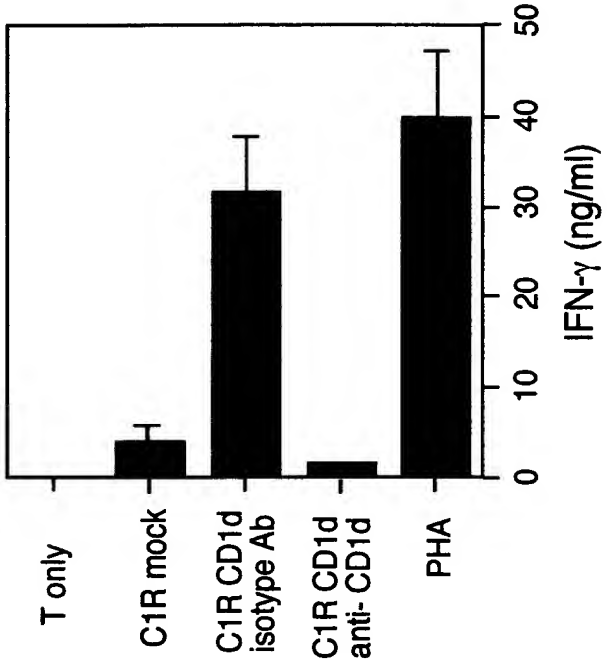


FIG. 20C

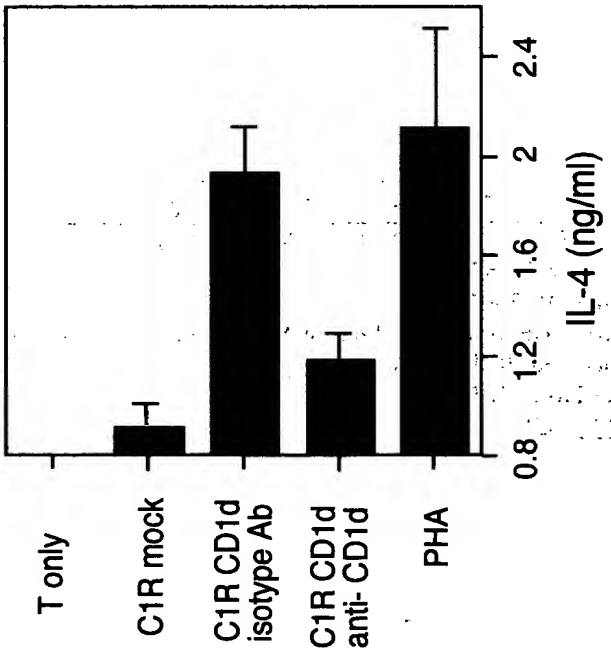


FIG. 21A

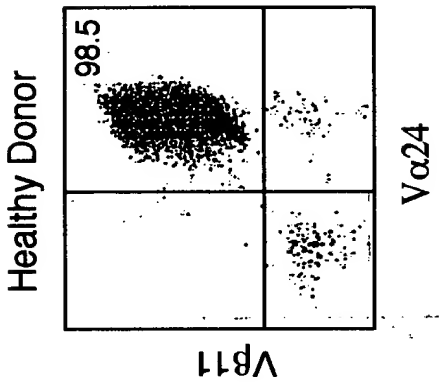


FIG. 21B

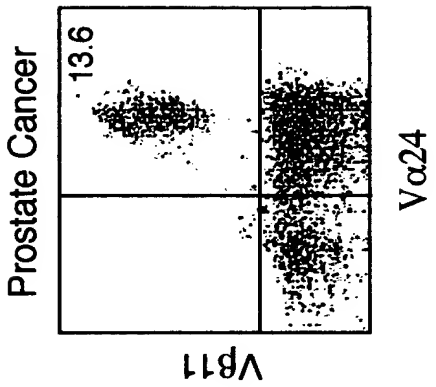


FIG. 21C

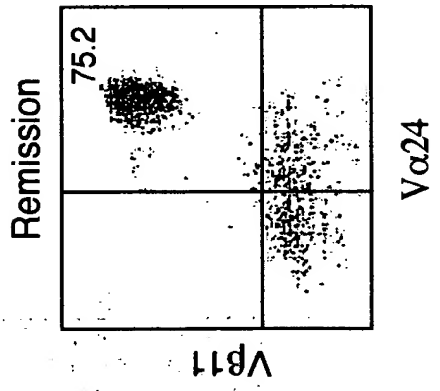


FIG. 21D

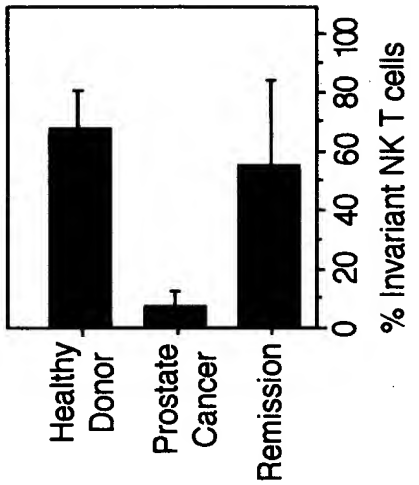


FIG. 22A

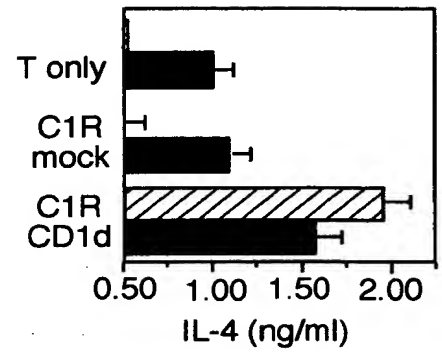


FIG. 22B

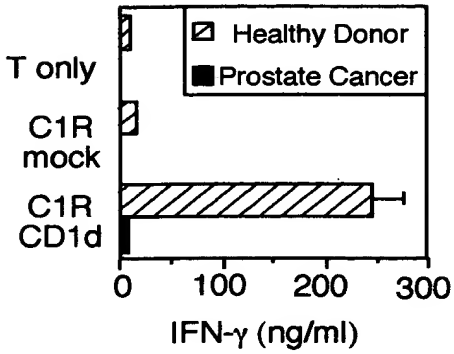


FIG. 22C

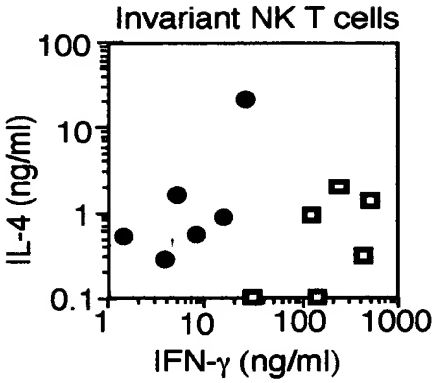


FIG. 22D

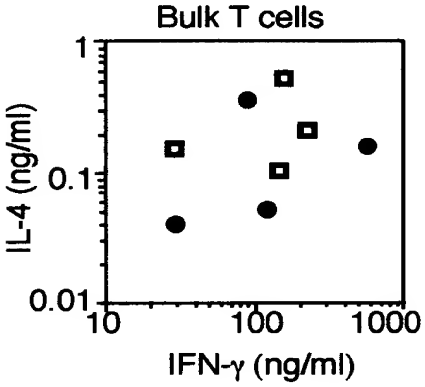


FIG. 22E

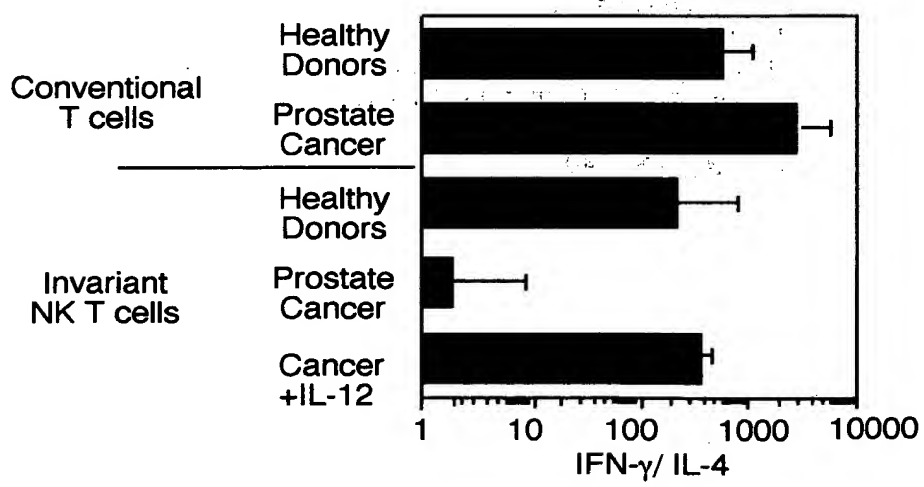


FIG. 23A

NK-T Dendritic Cell Study
Sero-Negatives

Date	Patient ID	Name	Serosatus	CD4 ABS	HIV copies/ml	Lymph Count	T-Cell Count	NK-T Count	% NK-T II Lymph	ABS Lymph	ABS NK-T	% NK-T II CD3	% CD123+ DC II Leuk	% CD11c+ DC II Leuk	WBC	ABS CD123+DC	ABS CD11c+DC
5/3/00	Yang		0			44728	27503	44	0.0984		0.0000	0.1600	***	***		***	***
5/9/00	91841		0	927		79175	64673	74	0.0935	1782	1.6655	0.1144	***	***	5400	***	***
5/11/00	42893		0			67709	47828	1	0.0015		0.0000	0.0021	***	***		***	***
5/18/00	91921		0	787		47660	32443	4	0.0084	1749	0.1468	0.0123	***	***	5300	***	***
5/24/00	91960		0	621		33001	26942	166	0.5030	1150	5.7847	0.6161	***	***	5000	***	***
5/25/00	91960*		0	621		33855	27347	206	0.6085	1150	6.9975	0.7533	***	***	5000	***	***
5/30/00	92001		0	898		65330	46630	48	0.0735	1632	1.1991	0.1029	***	***	4800	***	***
6/6/00	92065		0	735		61812	50967	15	0.0243	1634	0.3965	0.0294	***	***	3800	***	***
6/14/00	92145		0	796		84897	56717	26	0.0306	1768	0.5415	0.0458	***	***	5200	***	***
8/24/00	92673		0	821		76582	51494	45	0.0588	2160	1.2692	0.0874	0.170	0.320	4000	6.80	12.80
9/8/00	40211		0	1040		96769	78779	56	0.0579	2040	1.1805	0.0711	0.057	0.027	5100	2.93	1.37
9/8/00	92800		0	957		82627	63397	31	0.0375	1740	0.6528	0.0489	0.043	0.084	5800	2.47	4.85
1/24/01	42959		0	0		153419	112395	19	0.0124		0.0000	0.0169	0.032	0.051		0.00	0.00
1/25/01	40545		0	653		79252	44870	15	0.0189	1452	0.2748	0.0334	0.135	0.358	3300	4.47	11.81
1/25/01	40634		0	583		44101	36543	1	0.0023	1122	0.0254	0.0027	0.050	0.086	5100	2.55	4.39
1/31/01	41214		0	***		***	***	***	***	***	***	***	0.088	0.084		0.00	0.00
1/31/01	42888		0	***		***	***	***	***	***	***	***	0.073	0.062		0.00	0.00
2/1/01	40086		0	850		76313	67231	42	0.0550	1700	0.9356	0.0625	0.086	0.240	5000	4.31	11.98
2/1/01	40128		0	689		61816	47823	22	0.0356	1377	0.4901	0.0460	0.030	0.043	5100	1.54	2.21
2/22/01	40059		0			111766	85872	5	0.0045		0.0000	0.0058	0.040	0.085		0.00	0.00
2/28/01	41842		0			62325	48159	12	0.0193		0.0000	0.0249	0.111	0.264		0.00	0.00

Serosatus: 0=seronegative, 1=HIV-1infected, 2=HIV-1 Seroconverter, 3=AIDS

>0.02% NK-Tcells II lymphs considered positive

*5/25/00 (91969 blood is 24 hrs. old)

FIG. 23B

NK-T Dendritic Cell Study
Sero-Positives

Date	Patient ID	Name	Serosatus	CD4 ABS	HIV copies/ml	Lymph Count	T-Cell Count	NK-T Count	% NK-T II Lymph	ABS Lymph	ABS NK-T	% NK-T II CD3	% CD123+ DC II Leuk	% CD11c+ DC II Leuk	WBC	ABS CD123+DC	ABS CD11c+DC
5/25/00	40263		1	635	2257	79350	50332	6	0.0076	1813	0.1371	0.0119	***	***	3700	***	***
6/1/00	41989		1	699	0	81811	63503	250	0.3056	2254	6.8878	0.3937	***	***	4600	***	***
6/14/00	40846		3	559	0	98766	74485	3	0.0030	2432	0.0739	0.0040	***	***	7600	***	***
6/15/00	45555		1	668	30300	93116	55888	11	0.0118	2088	0.2467	0.0197	***	***	7200	***	***
6/15/00	41400		3	199	167000	50249	43105	6	0.0119	1107	0.1322	0.0139	***	***	4100	***	***
8/28/00	42946		1	768	212000	76925	63905	12	0.0156	2193	0.3421	0.0188	0.070	0.260	5100	3.57	13.26
9/8/00	20461		1	671	308	181054	111247	3	0.0017	3726	0.0617	0.0027	0.023	0.023	8100	1.82	1.87
9/8/00	40177		1	658	0	73001	54950	8	0.0110	1530	0.1677	0.0146	0.027	0.090	5100	1.37	4.58
1/24/01	41411		2	977		108212	88856	34	0.0314	2640	0.8295	0.0383	0.151	0.266	6000	9.03	15.98
1/26/01	40360		2	***	***	***	***	***	***	***	***	***	0.083	0.132		0.00	0.00
2/7/01	41266		1	354		48310	35405	1	0.0021	1219	0.0252	0.0028	0.040	0.137	5300	2.14	7.28
2/7/01	40646		2	0		55088	46321	2	0.0036		0.0000	0.0043	0.078	0.139		0.00	0.00
2/8/01	41329		1	0		86792	78696	5	0.0058		0.0000	0.0064	0.072	0.075		0.00	0.00
2/8/01	42964*		(unknown)	0		62696	52449	10	0.0159		0.0000	0.0191	0.031	0.038		0.00	0.00
2/14/01	42946		(unknown)	0		103913	83889	54	0.0520		0.0000	0.0644	0.039	0.124		0.00	0.00
2/22/01	41977		1			121798	95033	25	0.0205		0.0000	0.0263	0.022	0.029		0.00	0.00
3/1/01	40605		4			86319	71338	29	0.0336		0.0000	0.0407	0.088	0.092		0.00	0.00

Serosatus: 0=seronegative, 1=HIV-1infected, 2=HIV-1 Seroconverter, 3=AIDS
>0.02% NK-Tcells II lymphs considered positive

*5/25/00 (91969 blood is 24 hrs. old)

FIG. 23C

Date	Patient ID	Serosatus	CD4 ABS	HIV copies/ ml	Lymph Count	T-Cell Count	NK-T Count	% NK-T II Lymph	% NK-T II CDe	CD123+ DC II Leuk	CD11c+ DC II Leuk
	SERONEGATIVES										
5/3/00		0			44728	27503	51	0.1140	0.1854		
5/9/00	91841	0			79175	64673	74	0.0935	0.1144		
5/11/00	42893	0			67709	47828	1	0.0015	0.0021		
5/18/00	91921	0			47660	32443	4	0.0084	0.0123		
5/24/00	91960	0			33001	26942	166	0.5030	0.6161		
5/30/00	92001	0			65330	46630	48	0.0735	0.1029		
6/6/00	92065	0			61812	50967	15	0.0243	0.0294		
6/14/00	92145	0			84897	56717	26	0.0306	0.0458		
8/28/00	92673	0		0	76582	51494	45	0.0588	0.0874	0.17	0.32
9/8/99	92800	0			82687	63390	31	0.0375	0.0489	0.04	0.08
9/8/99	40211	0	1040		96769	78774	56	0.0579	0.0711	0.06	0.03
	mean				67304.545	49760.09	47	0.091168895	0.119637	0.09	0.143333333
	SD				19359.286	16224.34	45.47307	0.140902923	0.17276109	0.07	0.155026879
SEROPOSITIVES (DETECTABLE)											
9/8/99	20461	1	671	308	181054	111237	3	0.0017	0.0027	0.02	0.02
5/25/00	40263 Visit 330	1	635	2257	79350	50332	6	0.0076	0.0119		
6/15/00	45555 Visit 335	1	668	30300	93116	55888	11	0.0118	0.0197		
6/15/00	41400 Visit 330	3	199	167000	50249	43105	6	0.0119	0.0139		
8/28/00	42946	1	768		76925	63905	12	0.0156	0.0188	0.07	0.26
	mean				96138.8	64893.4	7.6	0.009714354	0.01339948	0.045	0.14
	SD				49941.556	27002.65	3.781534	0.005328085	0.0068081	0.035355339	0.169705627
SEROPOSITIVES (UNDETECTABLE)											
9/8/99	40177	1	658	0	73001	54946	8	0.0110	0.0146	0.03	0.09
6/1/00	41989 Visit 335	1	699	0	81811	63503	250	0.3056	0.3937		
6/14/00	40846 Visit 330	3	559	0	98766	74485	3	0.0030	0.0040		
8/28/00	42946	1	768		76925	63905	12	0.0156	0.0188	0.07	0.26
	mean				82625.75	64209.75	68.25	0.083794556	0.10776187	0.05	0.175
	SD				11347.626	7999.796	121.2226	0.147949482	0.19071445	0.028284271	0.120208153
ALL SEROPOSITIVES											

FIG. 23D

Date	Patient ID	Serosatus	CD4 ABS	HIV copies/ml	Lymph Count	T-Cell Count	NK-T Count	% NK-T II Lymph	% NK-T II CD3	CD123+ DC II Leuk	CD11c+ DC II Leuk
9/8/99	20461	1	671	308	181054	111237	3	0.0017	0.0027	0.02	0.02
5/25/00	40263 Visit 330	1	635	2257	79350	50332	6	0.0076	0.0119		
6/15/00	45555 Visit 335	1	668	30300	93116	55888	11	0.0118	0.0197		
6/15/00	41400 Visit 330	3	199	167000	50249	43105	6	0.0119	0.0139		
8/28/00	42946	1	768		76925	63905	12	0.0156	0.0188	0.07	0.26
9/8/99	40177	1	658	0	73001	54946	8	0.0110	0.0146	0.03	0.09
6/1/00	41989 Visit 335	1	699	0	81811	63503	250	0.3056	0.3937		
6/14/00	40846 Visit 330	3	559	0	98766	74485	3	0.0030	0.0040		
	mean				91784	64675.13	37.375	0.046018798	0.05990837	0.04	0.123333333
	SD				38863.254	21074.95	85.97664	0.104985353	0.13500524	0.026457513	0.123423391
	SN vs SP/Detect				0.2719675	0.294514	0.016718	0.084419635	0.06891274	0.414444189	0.984173536
SN vs SP/Undetect					0.0907158	0.042664	0.752949	0.934380609	0.9172846	0.445328944	0.815483198
SP/Detect vs SP/Undetect			0.479		0.5857258	0.959285	0.390795	0.390489333	0.39541498	0.890843778	0.836166008
	SN vs SP/All				0.1335716	0.118728	0.77884	0.434584864	0.40972451	0.343667848	0.870121379

Serostatus: 0=HIV-1 seronegative, 1=HIV-1 infected, 3=AIDS
> 0.02% NK-Tcells II lymphs considered positive

FIG. 24

: *Percent* of cells expressing both markers out of the *total* number of cells collected									
Run		Control	New Onset		Control	New Onset		Control	New Onset
		6B11FC	6B11FC		6B11 FC	6B11FC		VB11PE	VB11PE
1	VA24 PE	0.02	0.07	VB11PE	0.03	0.08	VA24FC	0.04	0.05
2		0.10	0.17		0.13	0.28		0.05	0.08
3		0.05	0.17		0.00	0.23		0.04	0.22
4		0.06	0.33		0.03	0.32		0.09	0.26
5		0.03	0.03		0.02	0.00		0.03	0.00
6		0.06	0.23		0.08	0.21		0.09	0.23
7		0.06	0.09		0.08	0.14		0.08	0.12
	Avg.	**0.05**	**0.16**	**Avg,**	**0.05**	**0.18**	**Avg.**	**0.06**	**0.14**
	Std. Dev	0.03	0.10	**Std.Dev.**	0.05	0.11	**Std. Dev.**	0.03	0.10
Table 1: *Percent* of cells expressing both markers out of the *gated* population									
Run		Control	New Onset		Control	New Onset		Control	New Onset
		6B11 FC	6B11 FC		6B11 FC	6B11 FC		VB11 PE	VB11 PE
1	VA24 PE	0.02	0.08	VB11PE	0.03	0.09	VA24 FC	0.04	0.06
2		0.11	0.17		0.14	0.30		0.06	0.09
3		0.06	0.19		0.00	0.25		0.05	0.24
4		0.07	0.34		0.03	0.33		0.10	0.27
5		0.05	0.04		0.04	0.00		0.04	0.00
6		0.07	0.29		0.10	0.27		0.11	0.29
7		0.07	0.12		0.09	0.17		0.09	0.15
	Avg.	**0.06**	**0.18**	**Avg.**	**0.06**	**0.20**	**Avg.**	**0.07**	**0.16**
	Std. Dev	0.03	0.11	**Std.Dev.**	0.05	0.12	**Std. Dev.**	0.03	0.11
		0.03506137			0.021871			0.088943	

FIG. 25A

Table 1. Genes differentially expressed between natural killer T cell clones ME10 and GW4

Functional category	Accession no.	Common name	Cluster (row, column)
Surface receptor			
	U38276	Semaphorin III	(1,1)
	U82169	Frizzled	(1,1)
	M32315	TNF-R	(1,2)
	U03397	4-1BB	(1,2)
	S77812	VEGF-R	(1,2)
	X01057	IL-2Rα	(1,2)
	Y00285	IGF-R II	(1,2)
	L08096	CD27	(1,2)
	Z30426	CD69	(1,2)
	U76764	CD97	(1,2)
	U60800	CD100	(1,2)
	M24283	Rhinovirus-R	(1,2)
	U19906	Arginine vasopressin-R	(1,2)
	Z48042	p137	(1,2)
	D79206	Ryudocan	(1,3)
	HT3125	CD44	(1,3)
	L39064	IL-9R	(2,1)
	X14046	CD37	(2,1)
	L31584	EBI-1	(2,1)
	X97267	LPAP	(2,1)
	M33680	TAPA-1	(2,2)
	M63175	AMFR	(2,2)
	U60975	gp250	(2,2)
	Z50022	C21orf3	(2,2)
	U90546	Butyrophilin BT4	(2,3)
	U90552	Butyrophilin BT5	(2,3)
	X96719	AICL	(2,3)
Cytoskeleton			
	U80184	Flightless I homolog	(1,1)
	X00351	β-Actin	(1,2)
	U20582	Actin-like peptide	(1,2)
	X82207	β-Centractin	(1,2)
	X98534	VASP	(1,2)
	D83735	Calponin	(2,1)
	J00314	β-Tubulin	(2,3)
	M21812	Myosin LC	(2,3)
	X98411	Myosin-IE	(2,3)
Kinase/phosphatase			
	X79510	PTP D1	(1,1)
	L10717	ITK	(1,2)
	X60673	AK3	(1,2)
	X85545	PKX-1	(1,2)
	D13720	LYK	(1,2)
	HT1153	Nm23-H2S	(1,2)
	M30448	CK II β	(1,2)
	M90299	Glucokinase	(1,2)
	U08316	ISPK-1	(1,2)
	X80910	PPP1CB	(1,2)
	X93920	DUSP-6	(1,2)
	U24152	PAK-1	(1,3)
	D11327	PTPN7	(1,3)
	U15932	DUSP-5	(1,3)
	L16862	GRK-6	(2,1)
	L27071	TXK	(2,1)
	J03805	PPP2CB	(2,2)
	HT3678	CLK-1	(2,3)
	U66464	HPK-1	(2,3)
	X62535	DAG kinase	(2,3)
	M31724	PTP-1B	(2,3)
Cytokine			
	U89922	LT-β	(1,1)
	J00219	IFN-γ	(1,2)
	V00536	IFN-γ	(1,2)
	M13207	GM-CSF	(1,2)
	M16441	TNF-α	(1,2)
	X02910	TNF-α	(1,2)
	X04688	IL-5	(1,2)
	U31120	IL-13	(1,2)
	M37435	M-CSF	(1,2)
	U02020	PBEF	(1,2)
	U37518	TRAIL	(1,2)
	U46461	Dishevelled homolog	(1,2)
	M90391	IL-16	(2,3)
Nuclear protein			
	U73477	Nuclear pp32	(1,1)
	U62962	Int-6	(1,2)
	L25931	Lamin B receptor	(1,3)
	M17733	Thymosin-β4	(2,3)
Transcription factor			
	M69043	IκBα	(1,2)
	X58072	GATA-3	(1,2)
	U43185	STAT-5A	(1,2)
	X51345	Jun-B	(1,2)
	X56681	Jun-D	(1,2)
	U15460	B-ATF	(1,2)
	HT4899	C-myc	(1,2)
	L00058	C-myc	(1,2)
	M13929	C-myc	(1,2)
	U26173	NF-IL3A	(1,2)
	M97796	Id-2	(1,2)
	M96843	Id-2B	(1,2)
	D14826	CREM	(1,2)
	S68271	CREM	(1,2)
	J03827	Y box BP	(1,2)
	U09412	ZNF134	(1,2)
	U13044	NRF-2α	(1,2)
	U22431	HIF-1α	(1,2)
	X78925	HZF-2	(1,2)
	Z47727	RNA POL2K	(1,2)
	J04076	EGR-2	(1,3)
	D61380	DJ-1	(1,3)
	HT4567	PC4	(1,3)
	HT4921	BTF-3 homolog	(2,1)
	L41067	NFAT-4C	(2,3)
	L78440	STAT-4	(2,3)
	M82882	ELF-1	(2,3)
	M83667	NF-IL6	(2,3)
Signal transduction			
	HT5108	TRAP-3	(1,1)
	X80200	MLN62	(1,1)
	U20158	SLP-76	(1,2)
	U26710	Cbl-b	(1,2)
	D78132	RHEB	(1,2)
	M63573	SCYLP	(1,2)
	M75099	FK506 BP	(1,2)
	Z35227	TTF	(1,2)
	U19261	EBV-independent	(1,3)
	M28209	RAB-1	(2,2)
	D78577	14-3-3-Eta	(2,3)
	X89399	Ins(1345)P4 BP	(2,3)
RNA Metabolism			
	D38251	RNP B5	(1,1)
	U90547	RNP homolog	(1,1)
	X17567	RNP B	(1,2)
	M29064	RNP B1	(1,2)

FIG. 25B

Functional category	Accession no.	Common name	Cluster (row, column)
	HT110	RNP A/B	(1,2)
	Z23064	RNP G	(1,2)
	HT3238	RNP K	(1,2)
	X52979	RNP SmB	(1,2)
	U15009	RNP SmD3	(1,2)
	X85372	RNP Sm F	(1,2)
	U30827	SF SRp40	(1,2)
	X70944	SF (PTP-associated)	(1,2)
	M60858	Nucleolin	(1,2)
	U10323	NF45	(1,2)
	U38846	Stimulator of TAR	(1,2)
	X59417	PROS-27	(1,2)
	X59892	IFN-independent γ2	(1,2)
	X66899	EWS	(1,2)
	X71428	fus	(1,2)
	X72727	Tunp	(1,2)
	X75755	PR264	(1,2)
	Z24724	Poly A site	(1,2)
	L28010	RNP F	(1,3)
	HT4788	RNP I	(1,3)
	L03532	M4	(1,3)
	U69546	RNA BP	(2,3)
Apoptosis			
	Z23115	Bcl-X_L	(1,2)
	U45878	IAP-1	(1,2)
	U11821	Fas ligand	(1,2)
	S81914	IEX-1	(1,2)
	U37546	MIHC	(1,2)
Chemokine			
	M23178	MIP-1α	(1,2)
	J04130	MIP-1β	(1,2)
	M69203	MCP-1	(1,2)
	L19686	MIF	(1,3)
Protein metabolism			
	D28473	ILE-tRNA synthase	(1,2)
	U09510	GLY-tRNA synthase	(1,2)
	L25085	Sec61-β	(1,2)
	X74801	Chaperonin cctg	(1,2)
	X77584	Thioredoxin	(1,2)
	Y00281	Ribophorin I	(1,2)
	Y10807	ARG-methyltransferase	(1,3)
	D13748	EIF-4AI	(1,3)
	X55733	EIF-4B	(2,1)
	X76648	Glutaredoxin	(2,3)

Genes populating the six expression clusters for the 11 gene functional categories shown in Fig. 2 are listed. Each gene is identified by GenBank accession no. [or The Institute for Genomic Research (TIGR) identifier for HT designations], followed by a common name and the specific cluster into which it fell (row, column).

FIG. 25C

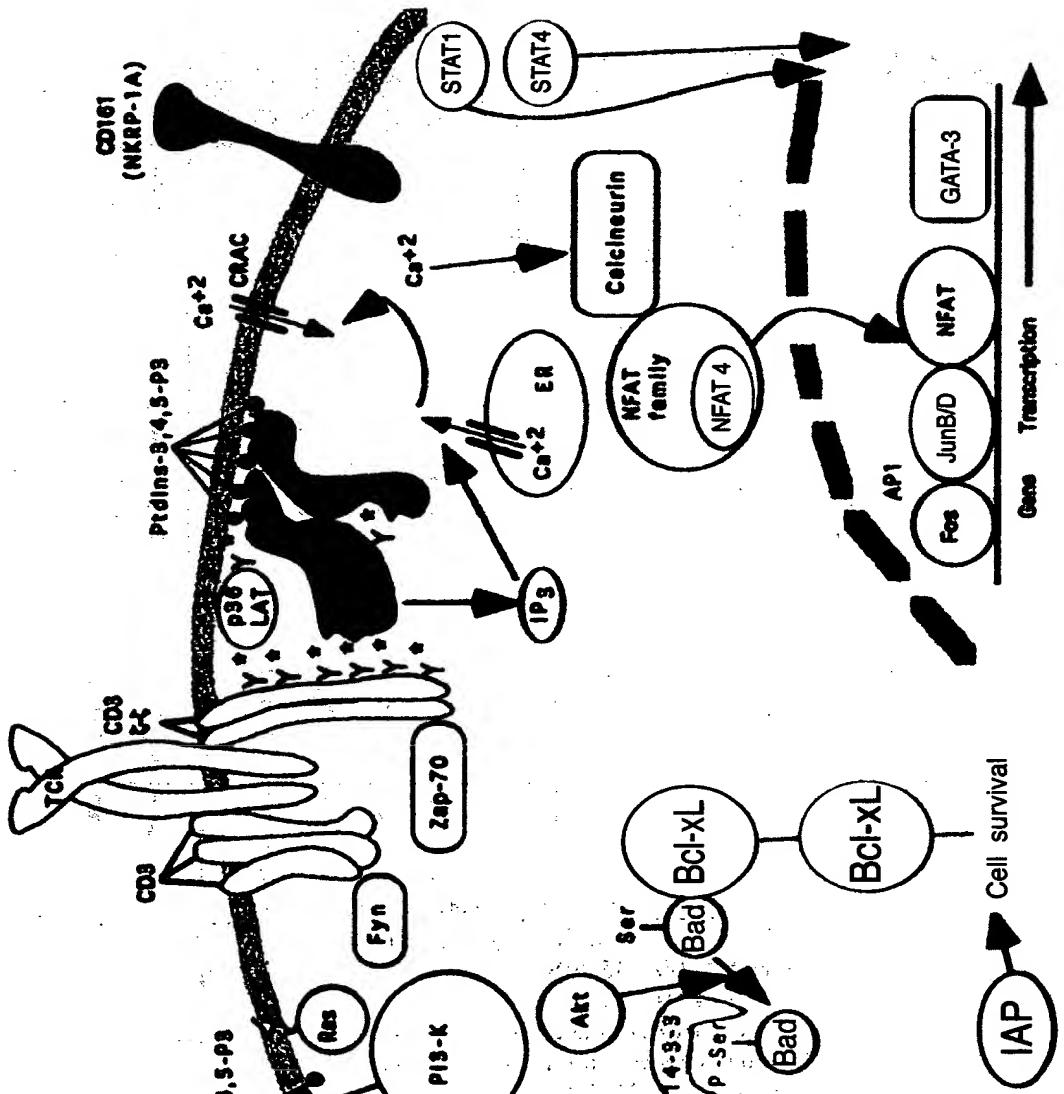

CD161
(NKRP-1A)
STAT1
STAT4
Ca+2
CRAC
Ca+2
Calcineurin
Ptdins-3,4,5-P3
Ca+2 ER
NFAT family
NFAT 4
P36
LAT
IP3
AP1
Fos
JunB/D
NFAT
GATA-3
Gene Transcription
CD3 ζ-ζ
TCR
CD3
Zap-70
Fyn
Ras
PIS-K
Ptdins-3,4,5-P3
Akt
Ser
Bad
Bcl-xL
14-3-3
P-Ser
Bad
Bcl-xL
IAP
Cell survival

FIG. 26A

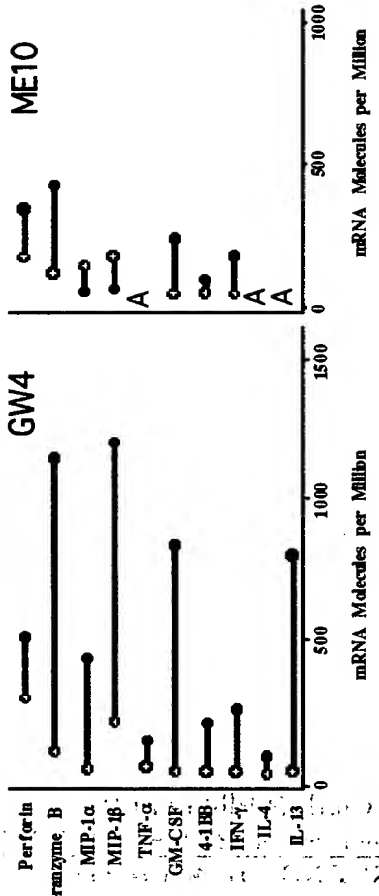


FIG. 26B

FIG. 26 C

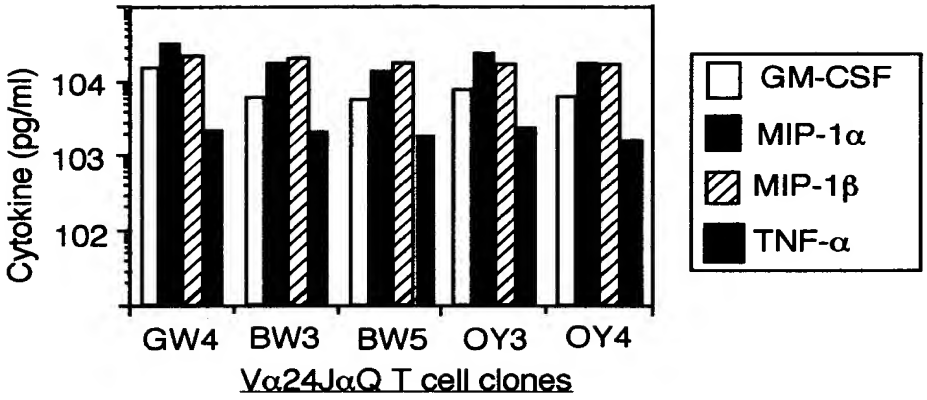


FIG. 26D

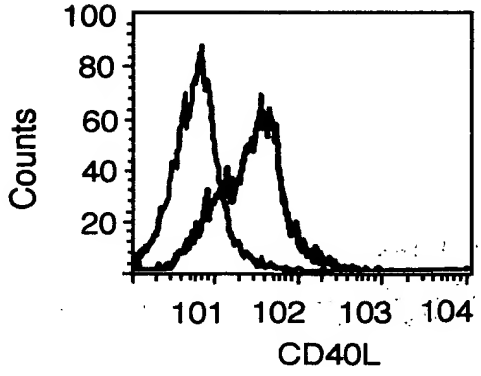


FIG. 27A

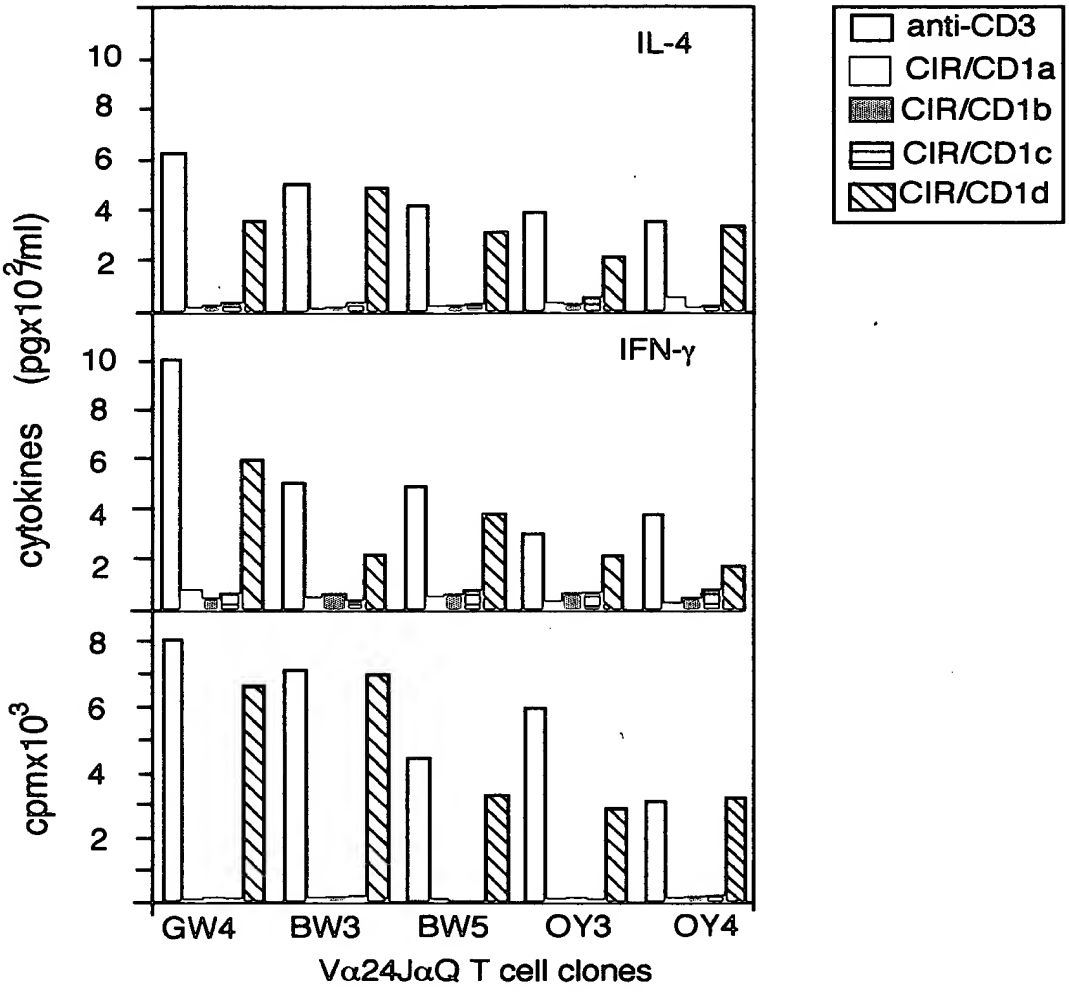


FIG. 27 B

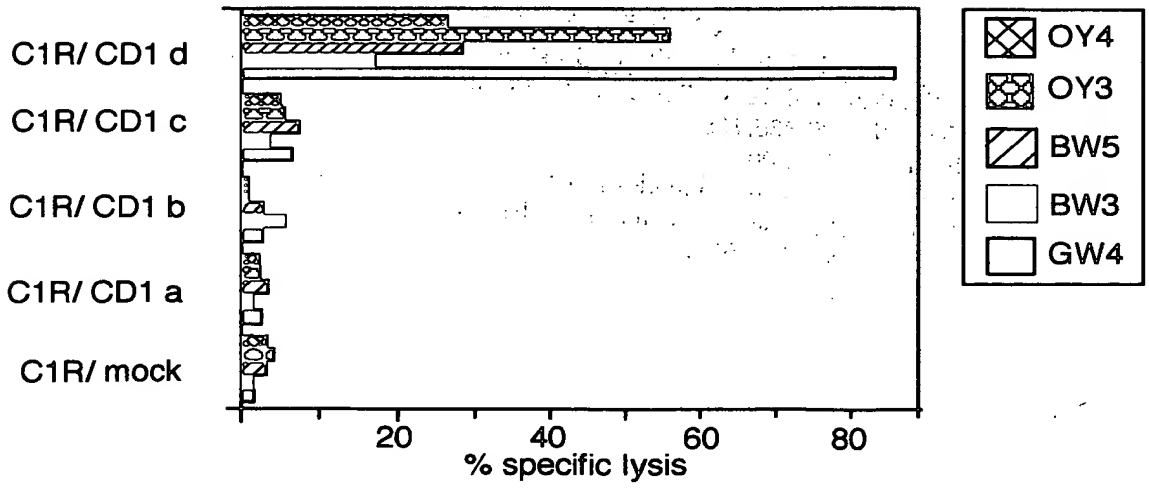


FIG. 28B

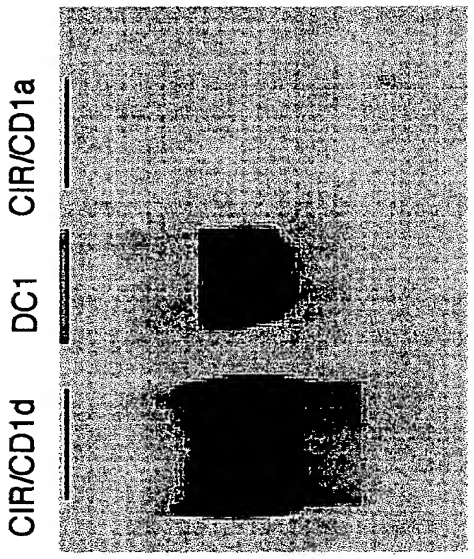


FIG. 28A

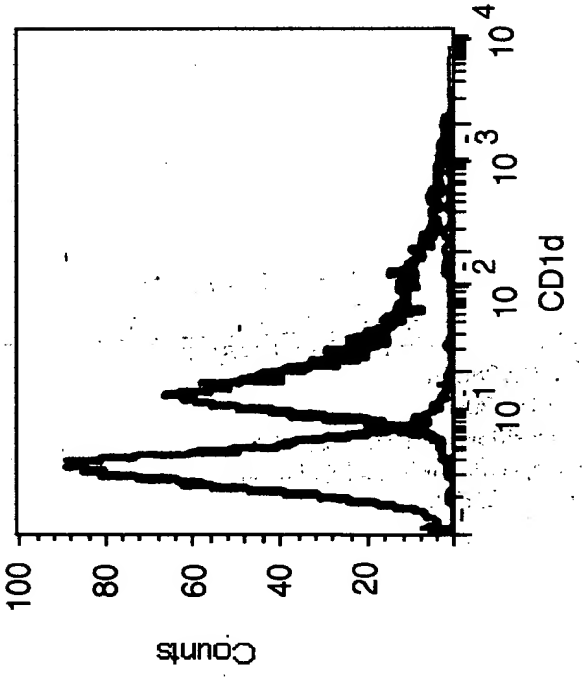


FIG. 28C

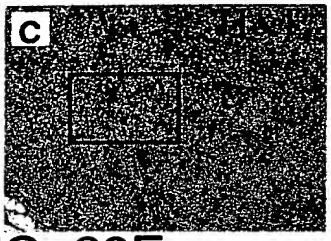


FIG. 28D

FIG. 28E

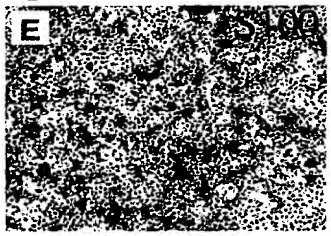


FIG. 28F

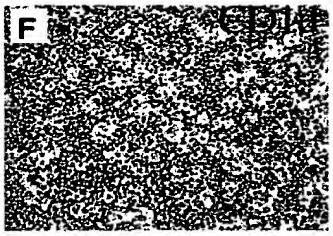


FIG. 28G

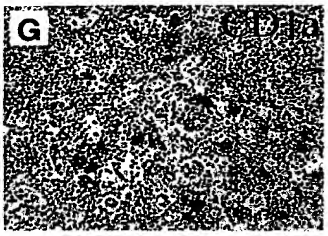


FIG. 28H

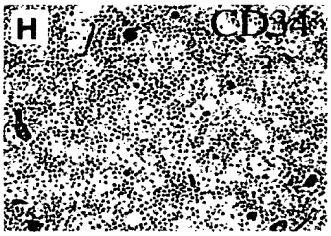


FIG. 28I

FIG. 28J

FIG. 28K

FIG. 28L

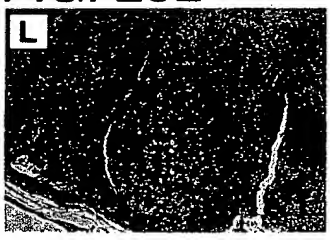


FIG. 28M

FIG. 28N

FIG. 29A

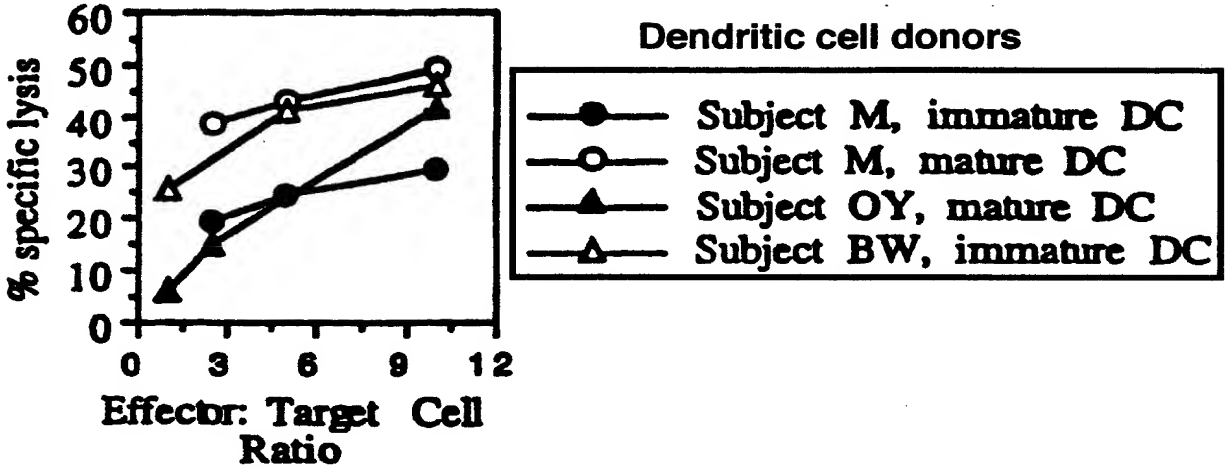
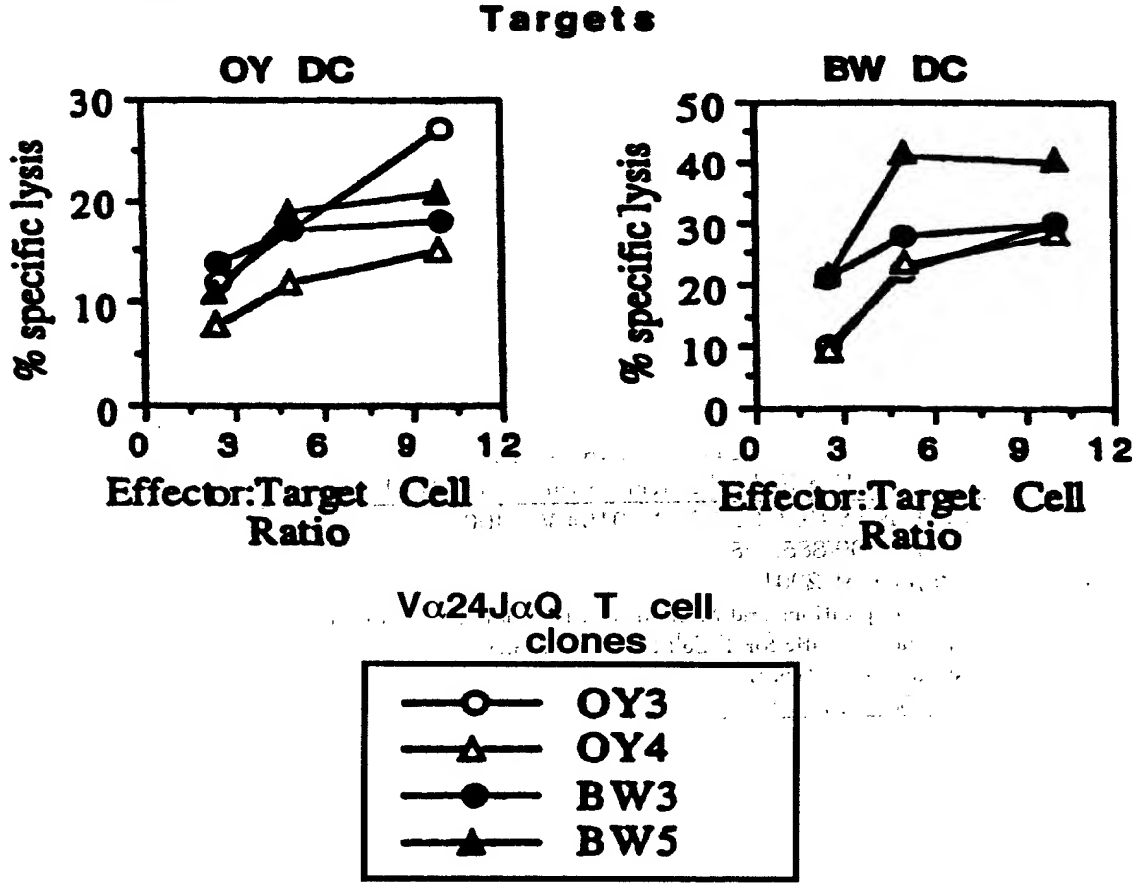


FIG. 29B

FIG. 29C



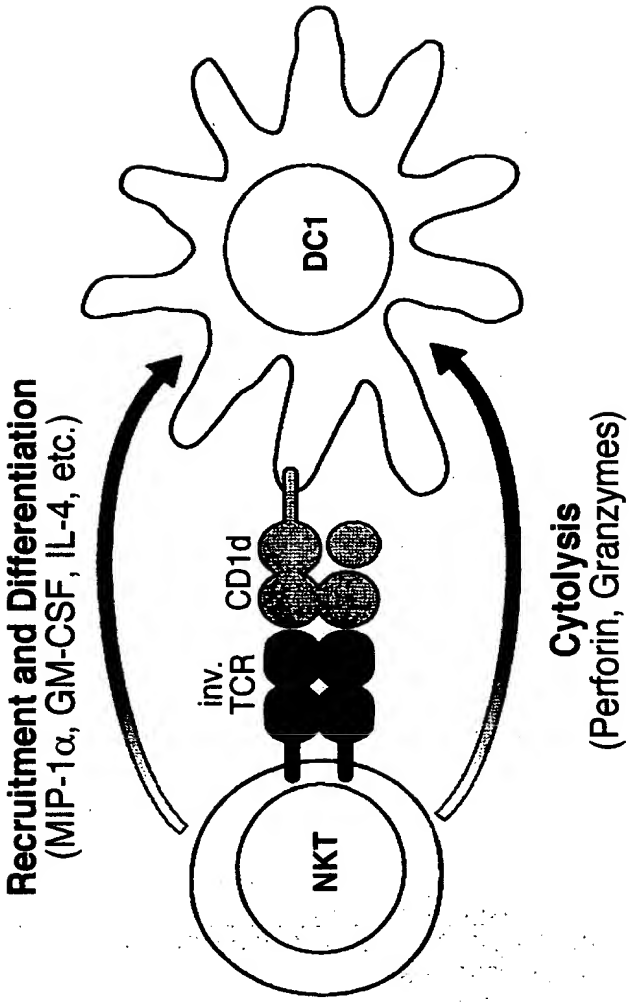

DC1
CD1d
inv.
TCR
NKT
Recruitment and Differentiation
(MIP-1α, GM-CSF, IL-4, etc.)
Cytolysis
(Perforin, Granzymes)

FIG. 30